

Applicants: RAVI, Ashoke et al.  
Serial Number: 10/608,128

Assignee: Intel Corporation  
Attorney Docket: P-5782-US

### **REMARKS**

Applicants have carefully studied the Office Action. This paper is intended to be fully responsive to all points of rejection and objection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application are respectfully requested.

#### **Status of the Claims**

Claims 1, 6-9, 14-16 and 19 are pending in the Application. Claims 2-5, 10-13 and 17-18 have been canceled, without prejudice or disclaimer. Claims 1, 6-9, 14-16 and 19 have been amended.

#### **Allowable Subject Matter**

Applicants appreciate the Examiner's finding of allowable subject matter in claims 5, 6, 13 and 14, and the Examiner's indication that these claims would be allowable if rewritten in independent form including all the limitations of the base claims and any intervening claims.

Applicants have amended independent claims 1, 7, 9 and 15 to recite, in paraphrase, the allowable subject matter identified by the Examiner.

#### **Voluntary Amendment of Claims**

Applicants have amended claims 1, 6-9, 14-16 and 19 to more clearly define what the Applicants regard as the invention. No new matter has been added.

Specifically, claims 1, 7 and 9 have been amended to recite: a second phase-shift generator to provide a phase-shift of substantially  $\pi/2$  radians to the oscillation signal from the second oscillation tank; and a phase-inverter to invert the phase of the oscillation signal, wherein the phase-inverter comprises an amplifier able to provide a gain such that a total gain across a loop, which comprises the amplifier, the first and second oscillation tanks, and the first and second phase-shift generators, is equal to substantially one.

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Claim 6 has been amended to depend from claim 1, instead of from claim 5.

Claim 8 has been amended to recite one or more transconductors to convert an oscillation signal of said loop from voltage to current.

Claim 14 has been amended to depend from claim 8, instead of from claim 13.

Claim 15 has been amended to recite: generating a second phase-shift of substantially  $\pi/2$  radians to the oscillation signal from the second oscillation tank; and inverting the phase of the oscillation signal, wherein inverting the phase comprises providing a gain such that a total gain across a loop, which comprises the first and second oscillation tanks, generating the first phase-shift, and generating the second phase-shift, is equal to substantially one.

Claim 16, which depends from claim 15, has been amended to accommodate the amendment of claim 15.

Claim 19 has been amended to depend from claim 15, instead of from claim 18.

#### **Claim Rejections Under 35 USC §102(e)**

The Office Action rejected claims 1-3, 7-8 and 15-17 under 35 USC §102(e) as being anticipated by Van Der Tang et al., United States Patent Application Publication Number 2002/0063607 ("Van Der Tang").

Claims 2-3 and 17 have been canceled, without prejudice or disclaimer.

Applicants respectfully submit that in view of the foregoing amendment, the rejection of claims 1, 7-8 and 15-16 under 35 USC §102(e) as being anticipated by Van Der Tang should be withdrawn.

As is well established, in order for a claim to be anticipated by the prior art, each and every element and feature of the claim must be included in a single prior art document.

Each of amended independent claims 1 and 7 recites, *inter alia*, a second phase-shift generator to provide a phase-shift of substantially  $\pi/2$  radians to the oscillation signal from the second oscillation tank; and a phase-inverter to invert the phase of the oscillation signal, wherein the phase-inverter comprises an amplifier able to provide a gain such that a total gain across a loop, which comprises the amplifier, the first and second oscillation

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tanks, and the first and second phase-shift generators, is equal to substantially one. Van Der Tang does not disclose, teach or suggest at least this feature of amended independent claims 1 and 7. Therefore, Van Der Tang does not anticipate independent claims 1 and 7, as amended.

Amended independent claim 15 recites, *inter alia*, generating a second phase-shift of substantially  $\pi/2$  radians to the oscillation signal from the second oscillation tank; and inverting the phase of the oscillation signal, wherein inverting the phase comprises providing a gain such that a total gain across a loop, which comprises the first and second oscillation tanks, generating the first phase-shift, and generating the second phase-shift, is equal to substantially one. Van Der Tang does not disclose, teach or suggest at least this feature of amended independent claim 15. Therefore, Van Der Tang does not anticipate independent claim 15, as amended.

In view of the above, Applicants respectfully submit that each of amended independent claims 1, 7 and 15 meets the novelty requirements of 35 USC §102(e).

Applicants respectfully submit that the above-mentioned distinctions of amended independent claims 1, 7 and 15 would not have been obvious at the time the invention was made to a person having ordinary skill in the art, in view of any of the references on record, alone or in combination. Therefore, while the Office Action has not made such a rejection, Applicants respectfully submit that amended independent claims 1, 7 and 15 meet the patentability requirements of 35 USC §103.

Claim 8 and claim 16 are dependent from amended independent claims 7 and 15, respectively, and include all the features of these independent claims as well as additional distinguishing features. Therefore, it is respectfully submitted that the novelty and patentability of claim 8 and claim 16 follow directly from the novelty and patentability of amended independent claims 7 and 15, respectively.

In view of the above, Applicants respectfully request that the rejection of claims 1, 7-8 and 15-16 under 35 USC §102(e) as being anticipated by Van Der Tang be withdrawn

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### Claim Rejections Under 35 USC §103(a)

The Office Action rejected claims 4, 18 and 19 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Mandelcorn, United States Patent Number 5,739,711 ("Mandelcorn").

Claims 4 and 18 have been canceled, without prejudice or disclaimer.

Without conceding the appropriateness of the combination, and without conceding that the combination renders claim 19 obvious, Applicants respectfully submit that in view of the foregoing amendment, the rejection of claim 19 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Mandelcorn should be withdrawn.

Amended independent claim 15 recites, *inter alia*, generating a second phase-shift of substantially  $\pi/2$  radians to the oscillation signal from the second oscillation tank; and inverting the phase of the oscillation signal, wherein inverting the phase comprises providing a gain such that a total gain across a loop, which comprises the first and second oscillation tanks, generating the first phase-shift, and generating the second phase-shift, is equal to substantially one. Van Der Tang and/or Mandelcorn, alone or in combination, do not disclose, teach or suggest at least these features of amended independent claim 15. Therefore, Van Der Tang and/or Mandelcorn, alone or in combination, do not render amended independent claim 15 obvious.

Claim 19 is dependent from amended independent claim 15, and includes all the features of amended independent claim 15 as well as additional distinguishing features. Therefore, it is respectfully submitted that the patentability of claim 19 follows directly from the patentability of amended independent claim 15.

In view of the above, Applicants respectfully request that the rejection of claim 19 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Mandelcorn be withdrawn.

The Office Action rejected claims 9-11 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Javor et al., United States Patent Application Publication Number 2004/0266356 ("Javor").

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Claims 10-11 have been canceled, without prejudice or disclaimer.

Without conceding the appropriateness of the combination, and without conceding that the combination renders claim 9 obvious, Applicants respectfully submit that in view of the foregoing amendment, the rejection of claim 9 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Javor should be withdrawn.

Amended independent claim 9 recites, *inter alia*, a second phase-shift generator to provide a phase-shift of substantially  $\pi/2$  radians to the oscillation signal from the second oscillation tank; and a phase-inverter to invert the phase of the oscillation signal, wherein the phase-inverter comprises an amplifier able to provide a gain such that a total gain across a loop, which comprises the amplifier, the first and second oscillation tanks, and the first and second phase-shift generators, is equal to substantially one. Van Der Tang and/or Javor, alone or in combination, do not disclose, teach or suggest at least these features of amended independent claim 9. Therefore, Van Der Tang and/or Javor, alone or in combination, do not render amended independent claim 9 obvious.

In view of the above, Applicants respectfully request that the rejection of claim 9 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Javor be withdrawn.

The Office Action rejected claim 12 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Javor and further in view of Mandelcorn.

Claim 12 has been canceled, without prejudice or disclaimer.

In view of the above, the rejection of claim 12 under 35 USC §103(a) as being unpatentable over Van Der Tang in view of Javor and further in view of Mandelcorn is now moot.

#### **Conclusion**

In view of the foregoing amendment and remarks, and for at least the reasons discussed above, Applicants respectfully submit that claims 1, 6-9, 14-16 and 19 are deemed to be allowable. Their favorable reconsideration and allowance are respectfully requested.

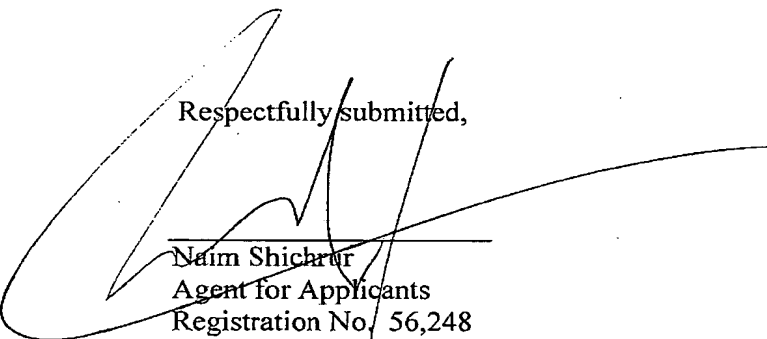
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Should the Examiner have any question or comment as to the form, content or entry of this paper, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

No fees are believed to be due in connection with this paper. However, if any fees are in fact due in connection with this paper, please charge any such fees to deposit account No. 50-3355.

Respectfully submitted,



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